

# Comparisons of Job Characteristics

**Focus Occupation: Agricultural and Food Science Technicians (19-4011)**

**Associated Occupation: Food Scientists and Technologists (19-1012)**

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

## Knowledge

Similarity of Focus Occupation to Associated Occupation: 80

**Focus Occupation: Agricultural and Food Science Technicians (19-4011)**

**Associated Occupation: Food Scientists and Technologists (19-1012)**

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Chemistry	4.8	19.8	10.0	<<	Extensive education and/or training may be required
Production and Processing	6.0	18.6	9.1	<<	Extensive education and/or training may be required
Biology	3.7	16.8	10.1	<<	Extensive education and/or training may be required
Food Production	2.1	15.9	9.1	<<	Extensive education and/or training may be required
Mathematics	9.2	14.5	10.9	<<	Extensive education and/or training may be required
Engineering and Technology	5.7	13.9	4.3	<<	Extensive education and/or training may be required
Physics	4.3	13.1	4.0	<<	Extensive education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Skills

Similarity of Focus Occupation to Associated Occupation: 95

**Focus Occupation: Agricultural and Food Science Technicians (19-4011)**

**Associated Occupation: Food Scientists and Technologists (19-1012)**

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Writing	9.2	13.2	10.7	<	A higher skill level may be required
Active Learning	8.7	12.5	8.7	<<	Extensive development of skills in this area may be required
Complex Problem Solving	9.1	12.3	9.3	<<	Extensive development of skills in this area may be required

Monitoring	9.9	12.3	9.7	<	A higher skill level may be required
Quality Control Analysis	5.9	10.5	6.4	<<	Extensive development of skills in this area may be required
Systems Analysis	6.5	10.5	6.2	<<	Extensive development of skills in this area may be required
Negotiation	6.8	9.7	6.4	<<	Extensive development of skills in this area may be required
Systems Evaluation	6.4	9.7	6.3	<<	Extensive development of skills in this area may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

Abilities		Similarity of Focus Occupation to Associated Occupation: 96			
Focus Occupation: Agricultural and Food Science Technicians (19-4011) Associated Occupation: Food Scientists and Technologists (19-1012)					
Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Inductive Reasoning	10.2	14.5	10.0	<<	Extensive improvement in abilities may be required
Written Comprehension	11.0	14.5	11.2	<<	Extensive improvement in abilities may be required
Problem Sensitivity	11.1	13.9	10.7	<<	Extensive improvement in abilities may be required
Category Flexibility	9.0	13.5	9.5	<<	Extensive improvement in abilities may be required
Deductive Reasoning	10.6	13.5	10.3	<<	Extensive improvement in abilities may be required
Written Expression	9.8	13.3	11.4	<	Some improvement in abilities may be required
Originality	7.6	11.1	6.4	<<	Extensive improvement in abilities may be required
Fluency of Ideas	7.6	11.0	6.8	<<	Extensive improvement in abilities may be required
Number Facility	6.3	11.0	7.4	<<	Extensive improvement in abilities may be required
Mathematical Reasoning	6.3	10.8	8.5	<	Some improvement in abilities may be required
Time Sharing	6.6	8.5	7.1	<	Some improvement in abilities may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common	Similarity of Focus Occupation to Associated Occupation: 97
<b>Focus Occupation: Agricultural and Food Science Technicians (19-4011)</b> <b>Associated Occupation: Food Scientists and Technologists (19-1012)</b>	

Work Activities	Exclusivity of Activity
Adhere to safety procedures	12
Analyze biological research, test, or analysis data	70
Analyze chemical experimental, test, or analysis data or findings	69
Analyze scientific research data or investigative findings	27
Collect scientific or technical data	30
Communicate technical information	4
Compile numerical or statistical data	38
Conduct analyses or tests of organic compounds	71
Conduct analyses to determine physical properties of materials	80
Conduct field research or investigative studies	52
Conduct laboratory research or experiments	57
Conduct standardized qualitative laboratory analyses	62
Conduct standardized quantitative laboratory analyses	62
Cultivate micro-organisms for study, testing, or medical preparations	84
Determine the quality of food or beverages	92
Develop or maintain databases	30
Develop tables depicting data	33
Examine biological or other material specimens under microscope	73
Follow microbiology procedures	74
Identify nutritional value of foods	87
Maintain established procedures concerning quality assurance	87
Maintain records, reports, or files	5
Perform statistical analysis	71
Prepare reports	8
Prepare sample for laboratory testing, analysis, or microscopy	74
Recognize plant diseases	72
Record test results, test procedures, or inspection data	48
Select food or beverage samples with specific characteristics	99
Use biological research techniques	68
Use biological testing instruments	73
Use chemical testing or analysis procedures	54
Use computers to enter, access or retrieve data	3
Use government regulations	44
Use health or sanitation standards	62
Use knowledge of metric system	39
Use laboratory equipment	60
Use mathematical or statistical methods to identify or analyze problems	30
Use microscope	71
Use precision measuring tools or equipment	17
Use quality assurance techniques	61
Use quantitative research methods	35
Use relational database software	26
Use scientific research methodology	21
Use spreadsheet software	18
Use word processing or desktop publishing software	17

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Tools and Technologies that Both Occupations Have in Common

Similarity of Focus  
Occupation to Associated  
Occupation: 73

**Focus Occupation: Agricultural and Food Science Technicians (19-4011)**  
**Associated Occupation: Food Scientists and Technologists (19-1012)**

Tools and Technologies	Exclusivity
Autoclave and sterilizer equipment and accessories	12
Business function specific software	1
Chemical evaluation instruments and supplies	10
Clinical and diagnostic analyzers and accessories and supplies	18
Computers	1
Content authoring and editing software	1
Data management and query software	1
Electrochemical measuring instruments and accessories	9
Fermentation equipment	31
Fluid mechanics equipment	11
Gas analyzers and monitors	10
Indicating and recording instruments	2
Industry specific software	1
Laboratory baths	24
Laboratory blending and dispersing and homogenizing equipment and supplies	27
Laboratory boring and grinding and cutting and crushing and pressing equipment	27
Laboratory centrifuges and accessories	13
Laboratory decanting and distilling and evaporating and extracting equipment and supplies	19
Laboratory environmental conditioning equipment	24
Laboratory heating and drying equipment	13
Laboratory incubating equipment	20
Laboratory ovens and accessories	15
Laboratory water purification equipment and supplies	29
Length and thickness and distance measuring instruments	2
Light and wave generating and measuring equipment	4
Liquid and solid and elemental analyzers	19
Pipettes and liquid handling equipment and supplies	16
Sampling equipment	12
Spectroscopic equipment	10
Temperature and heat measuring instruments	6
Viewing and observing instruments and accessories	4
Weight measuring instruments	7

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.